

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**A. B. Paterson Electric Generating Plant
Entergy New Orleans, Inc.
New Orleans, Orleans Parish, Louisiana
Agency Interest Number: 703
Activity Number: PER19960002
Draft Permit 2160-00015-V0**

I. APPLICANT:

Company:

Entergy New Orleans, Inc.
3601 Paris Road, New Orleans, LA 70129

Facility:

A. B. Paterson Electric Generating Plant
5400 Dwyer Road, New Orleans, Orleans Parish, LA 70126
Approximate UTM coordinates are 786.90 kilometers East and 3324.10
kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

A. B. Paterson Electric Generating Plant is an existing facility located in Orleans Parish, in Eastern New Orleans. Entergy New Orleans, Inc. wishes to permit an existing Electric Services facility. The A. B. Paterson Electric Generating Plant currently operates under Permit No. 103, issued April 4, 1972. An Acid Rain Permit, No. 2140-00015-IV1 was issued for this facility on September 28, 2005.

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire were submitted by Entergy New Orleans, Inc. on October 4, 1996, requesting an initial Part 70 operating permit. Additional information dated June 6, 2005, and December 2, 2005 was also received.

Project description

The A. B. Paterson Electric Generating Plant generates approximately 475 MW of power for the surrounding area in New Orleans. Natural gas, No. 2 fuel oil, or

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No.4 fuel oil is burned as a source of energy to generate steam in the two main boilers. The steam is used to drive steam turbines which are connected to the electric generators that provide the electric power.

Unit 3 and Unit 4 boilers burn natural gas as their primary fuel. Unit 3 burns No. 2 fuel oil as a secondary fuel and No. 4 fuel oil as a tertiary fuel. Because there are three potential fuel sources, there may be three different operating scenarios for the unit 3 boiler. Unit 3 boiler has a maximum unit heat input of 600 MMBtu/hr; Unit 4 boiler burns only natural gas and has a maximum heat input of 1020 MMBtu/hr. Unit 3 boiler and Unit 4 boiler combustion gases are emitted from a common stack, the C3 stack. This is the only boiler emissions point. Emissions from these sources are criteria pollutants and some toxic air pollutants.

Unit 5 turbine also provides plant power. Unit 5 turbine burns No. 2 fuel oil as a primary fuel and has a maximum heat input of 268.8 MMBtu/hr. The unit 5 exhausts out of one stack, the C5 stack. Emissions from this source are criteria pollutants and some toxic air pollutants.

The A. B. Paterson plant utilizes five tanks to store the fuel oil needed for power generation. Tanks T-1, T-2, T-3 and T-4 are capable of storing No. 2 and No. 4 fuel oil. Tank T-5 stores only No. 2 fuel oil.

Permitted Air Emissions

Estimated permitted emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Emissions</u>
PM ₁₀	239.39
SO ₂	2035.88
NO _x	2949.77
CO	640.85
VOC ¹	60.82

**A. B. Paterson Electric Generating Plant
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¹VOC speciation in tons per year:

<u>LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):</u>	
<u>Pollutant</u>	<u>Pollutant</u>
Benzene	0.02
Dichlorobenzene	0.01
Formaldehyde	1.24
n-Hexane	12.17
Naphthalene	0.04
Toluene	0.19
1,1,1 – Trichloroethane*	0.01
Xylene (mixed isomers)	< 0.01
Total	13.68
VOC TAPs	13.67
*Non-VOC TAPs	0.01

Prevention of Significant Deterioration Applicability

The pollutants are not being increased by significant amounts by the project. Therefore, the proposed facility is not subject to the requirements of the PSD program.

MACT requirements

Maximum Achievable Control Technology (MACT) and ambient air quality standards associated with toxic air pollutants are not applicable. Also, boiler units 3 and 4 are not subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart DDDDD per 40 CFR 63.7491c.

**A. B. Paterson Electric Generating Plant
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Air Modeling Analysis

Dispersion Model(s) Used: ISCST3 (screen)

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})
PM10	24-Hour	1.03 $\mu\text{g}/\text{m}^3$	(150) $\mu\text{g}/\text{m}^3$
	Annual	0.08 $\mu\text{g}/\text{m}^3$	(50) $\mu\text{g}/\text{m}^3$
NOx	Annual	1.23 $\mu\text{g}/\text{m}^3$	(100) $\mu\text{g}/\text{m}^3$
SO2	3-Hour	42.86 $\mu\text{g}/\text{m}^3$	(1300) $\mu\text{g}/\text{m}^3$
	24-Hour	10.90 $\mu\text{g}/\text{m}^3$	(365) $\mu\text{g}/\text{m}^3$
	Annual	0.84 $\mu\text{g}/\text{m}^3$	(80) $\mu\text{g}/\text{m}^3$

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. A boiler cleaning activity is scheduled every three years at the A. B. Paterson Plant, however, wastewater and chemical wash are transported off-site for disposal resulting in no emissions for this activity. For a list of General Condition XVII Activities, refer to Section VIII of the draft permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

Regulatory Analysis

This permit was reviewed for compliance with 40 CFR 70, and the Louisiana Air Quality Regulations. Prevention of Significant Deterioration (PSD), National Emission Standards for Hazardous Air Pollutants (NESHAP), and New Source Performance Standards (NSPS) do not apply.

This facility is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. Per LAC 33:III.5105.B.3, emissions from Group 1 virgin fossil fuels are exempt from LAC 33:III.Chapter 51, subchapter A.

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit. Similarly, the Monitoring, Reporting and

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Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit.

IV. Permit Shields

There is no permit shield.

V. Periodic Monitoring

Acid Rain Monitoring

A. B. Paterson Electric Generating Plant is required to install and operate a NOx and SO2 continuous emissions monitoring system (CEMS) on Unit 3 Boiler, Unit 4 Boiler and the Combustion Turbine. A. B. Paterson Electric Generating Plant will also have to monitor the heat input to each unit for each fuel fired.

Compliance Assurance Monitoring

Federal regulation 40 CFR 64-Compliance Assurance Monitoring (CAM) is not applicable to this facility.

VI. Applicability and Exemptions of Selected Subject Items		
ID No:	Requirement	Notes
Entire Facility AI703	Chemical Accident Prevention and Minimization of Consequences [LAC 33:III.Chapter 59]	DOES NOT APPLY. Facility does not store or process any referenced list substances greater than the threshold amounts.
Entire Facility AI703	Comprehensive Toxic Air Pollutant Emission Control Program [LAC 33:III.5112]	EXEMPT. Emissions from the combustion of Group 1 virgin fossil fuels are exempt from LAC 33:III. Chapter 51 per LAC 33:III.5105.B.3.a.

A. B. Paterson Electric Generating Plant
Entergy New Orleans, Inc.
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VI. Applicability and Exemptions of Selected Subject Items		
ID No:	Requirement	Notes
EQT 8-10, 12,15 Fuel Oil Storage Tanks	Control of Emissions of Organic Compounds – Storage of Volatile Organic Compounds [LAC 33:III.2103]	DOES NOT APPLY. Stored Fuel oil maximum vapor pressures < 1.5 psia.
EQT 8-10, 12,15 Fuel Oil Storage Tanks	NSPS Subpart K – Standards of Performance for Storage Vessels for Which Construction, Reconstruction, or Modification Commences after June 11, 1973 and Prior to May 19, 1978. [40 CFR 60.110]	DOES NOT APPLY. Storage tank constructed before June 11, 1973.
EQT 13,14 Units 3 and 4 Boilers	NSPS Subpart D – Standards of Performance for Steam Generating Units for which Construction, Reconstruction, or Modification Commenced after August 17, 1971. [40 CFR 60.40a]	DOES NOT APPLY. Steam Generating Units were constructed prior to August 17, 1971.
EQT 13,14 Units 3 and 4 Boilers	NESHAP Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters. [40 CFR 63.7491c]	DOES NOT APPLY. Electric utility fossil fuel-fired steam generating boilers >25 MW that serve a generator to produce electricity are not subject to this subpart.
EQT 7 No. 2 fuel oil- fired Combustion Turbine	NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines for which Construction, Reconstruction, or Modification Commenced after October 3, 1977. [40 CFR 60.330b]	DOES NOT APPLY. Stationary Gas Turbine was constructed prior to October 3, 1977.

VII. Streamlined Requirements			
Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
A. B. Paterson Electric Generating Plant	None	-	-

**A. B. Paterson Electric Generating Plant
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VIII. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) - A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air

**A. B. Paterson Electric Generating Plant
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Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO₂) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.